

**Abstract of the Disclosure**

- A microwave antenna for use in a sectorized cellular communication system comprises a wide-flare pyramidal horn having two pairs of opposed flared side walls. At
- 5 least one of the two pairs of opposed walls has corrugated interior surfaces. The length of the horn and the flare angle of the walls having the corrugated interior surfaces are selected to produce a ratio  $\Delta_e/\lambda$  greater than 1.5, where  $\Delta_e/\lambda = [a/(2/\lambda)] \tan(\alpha_e/2)$  is the spherical-wave error of said horn,  $\lambda$  is the free space wavelength of the microwave signals to be transmitted by said antenna,  $a$  is the horn's aperture width, and  $\alpha_e$  the half-angle of the horn in the
- 10 horizontal plane.

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